safety communications and recommends that the Commission develop requirements to ensure that MSS systems meet public safety needs.[271] ICSAR also recommends that these issues -- standardized location, caller ID and routing of emergency or distress calls -- be addressed in a separate rule making.[272] The National Emergency Number Association states that the Commission should adopt a rule to require that licensees of Big LEO systems cooperate in the provision of National Security and Emergency Preparedness (NS/EP) communications.[273]

198. LQP states that it supports the Commission's proposed rule regarding distress and safety communications and in principle its obligation regarding distress communications, but opposes having to provide search and rescue or disaster response communications as a general service offering.[274] LQP stated that the Commission should follow its decision reached in the Little LEO proceeding.[275] Motorola states that it does not object to the proposed rule and notes that consistent with the Commission's decision in the Little LEO proceeding, the Commission did not intend to require that Big LEO MSS licensees show specific means of interconnection to route distress calls and did not intend for Big LEO MSS stations to be used in lieu of emergency beacons required to be carried by international agreement or statute.[276] Motorola strongly opposes the imposition of a specific technical model for the 9-1-1 interconnection and location information delivery.[277]

199. Many of the Big LEO applicants acknowledge that they may carry distress and safety or disaster response communications. They argue that this would be, however, no different than the capability of cellular radios today or future personal communications services that may be used in the event of a distress or an emergency. In the Notice, we reminded licensees of their obligations under the Communications Act regarding distress communications and noted the potential for such systems to complement existing services, but, also recognized that Big LEO systems are not intended to replace existing international safety services. Further, the Commission has begun to examine matters related to enhanced 9-1-1 capability including position

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[271] ICSAR Reply Comments at 2.

[272] Id. See also Summary of Pertinent Comments attached to ICSAR's Reply Comments for a summary of issues.

[273] National Communications System Comments at 2.

[274] LQP Comments at 116, Reply Comments at 94. See also Comments of TRW at 193 and Constellation Reply Comments at 54.

[275] See NVNG MSS Order, note 48, supra, at 8458.

[276] Motorola Comments at 68.

[277] See Motorola Reply Comments at 54-55.

location in PCS, cellular and other mobile services in a recently initiated rule making.[278] We are, therefore, denying commenters requests that the Commission require caller ID, standardized position information and automatic routing for distress and safety communications or disaster response communications. We will address those issues in our rulemaking proceeding on enhanced 9-1-1 capability,[279] and we will adopt section 25.143(f) substantially as proposed.

200. We also noted, however, that we expected any satellite licensee that chose to offer emergency or safety communications to coordinate with appropriate SAR organizations.[280] No commenters opposed this suggestion and we are adding it to the proposed rule.

201. Comsat states that because of the critical nature of distress and safety communications to the maritime community and the extensive international effort that is underway to implement the Global Maritime Distress and Safety System (GMDSS),[281] the Commission should determine the extent to which applicants for Big LEO systems will provide distress and safety communications and participate in the GMDSS.[282] Mobile Datacom requests clarification of the proposed requirement for position determination capability for Big LEO systems related to distress communications.[283] Specifically, it requests that the Commission clarify whether Big LEO systems will be permitted to arrange for radio determination satellite service (RDSS) from companies such as Mobile Datacom.[284]

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[278] See Second Report and Order, Gen. Docket No. 90-314, 8 FCC Rcd 7700 (1993), at para. 139. Notice of Proposed Rulemaking in CC Docket No. 94-102, FCC 94-237 (adopted September 19, 1994) (Enhanced 9-1-1 Notice).

[279] Id.

[280] See Notice, note 2, supra, at para. 86.

[281] Certain U.S. ships are required to carry radio equipment. Carriage requirements are established by statute, treaty and in the Commission's Rules. See, Sections 351 through 386 of the Communications Act of 1934, 47 U.S.C. §§ 351-386; Amendments to the 1974 SOLAS Convention concerning Radiocommunications for the Global Maritime Distress and Safety System, Ch. IV, International Convention for the Safety of Life at Sea, 32 U.S.T. 47, T.I.A.S. 9700 (1974); and subparts Q, R, S, T and W of the Commission's Rules, 47 C.F.R. subparts Q, R, S, T and W.

[282] COMSAT Comments at 14.

[283] Mobile Datacom apparently believes that the Commission proposed a requirement for position information because of the requirements in the Communications Act related to distress and safety communications. The proposed requirement for position information is, however, related to interference protection for the radio astronomy service.

[284] Mobile Datacom Comments at 14.

202. As we noted in paragraph 86 of the Notice, Big LEO systems may not be used in lieu of emergency beacons required to be carried by statute or treaty. In response to Comsat's request, we note that Big LEO systems cannot now be used to comply with the requirements of the GMDSS. The requirements for GMDSS equipment and the approval process are contained in Sections 80.1101 and 80.1103, respectively, of the Commission's Rules.[285] There are, however, no restrictions prohibiting any Big LEO system from carrying distress and safety communications on an ancillary basis. Finally, in response to Mobile Datacom's request for clarification of whether position determination information can be supplied by an RDSS licensee, we proposed that Big LEO systems be capable of determining the position of a user transceiver, but did not specify how licensees have to derive the position information. We believe that decision is best left to the system provider. In conclusion, we are clarifying the language in Section 25.143(f) regarding a licensee's responsibility to protect distress communications and to make clear that although it is the licensee's responsibility to determine position information of transceivers that we are not prescribing how this must be accomplished.[286]

6. Other Requirements

203. As proposed in the Notice and without objection from any interested parties, we will adopt a specific rule that prohibits any licensee from selling a bare license for a profit.[287] This provision is critical to discourage speculators and to prevent unjust enrichment of those who do not implement their proposed systems. This provision is not intended to prevent the infusion of capital by either debt or equity financing, but any such transaction will be monitored to ensure that it does not constitute an evasion of our anti-trafficking provision.[288] This rule, however, will not apply if auctions are implemented. It is not intended to prohibit applicants who obtain licenses by competitive bidding from negotiating post-auction resale transactions.[289]

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[285] See 47 C.F.R. §§ 80.1101 and 80.1103.

[286] TRW states that Big LEO system licensees operating on U.S. territorial waters are required to give priority to distress communications. See TRW Comments at 194. Motorola stated that the requirements of proposed rule section 25.143(f) would apply only for MSS stations used to comply with an international agreement or statute. See Motorola Comments at 68 and Reply Comments at 58.

[287] See Notice, note 2, supra, at para. 84.

[288] Motorola is concerned that one applicant might prop up another simply to guarantee access to the maximum possible spectrum by CDMA operations. This concern can be appropriately addressed as a real party in interest question if the issue arises. Motorola's speculation about a possible future occurrence does not warrant further consideration or action at this time.

[289] See para. 96, supra.

204. In the Notice, we also requested comment on whether any additional public service requirements should be imposed on Big LEO licensees. Those favoring such a requirement were instructed to provide an analysis of the utility of Big LEO systems to provide these services and an analysis of the existing systems used to provide these services, including their costs. Several commenters recognize the important potential of MSS for educational and public service uses.[290] The Corporation for Public Broadcasting (CPB), for example, discusses the promise of Big LEO systems to provide educational services to those in remote areas and to allow users throughout the world to take "electronic field trips." CPB urges that to ensure public access to these services, the Commission should require licensees to make their systems available to educators and students at preferential rates. It further argues that even if the Commission does not mandate a rate preference in this proceeding, it should consider imposing such a requirement in a variety of other services.

205. None of the LEO applicants supports a mandatory service or preferential rate requirement. Ellipsat notes that MSS systems are unsuitable for providing the envisioned services. According to Ellipsat, Big LEO systems have inherently low data rates and cannot supply the high bandwidth required to support the contemplated educational services without drastically absorbing MSS capacity.[291] Motorola further argues that requiring Big LEO operators to dedicate a portion of their capacity to non-revenue generating activities would unduly constrain MSS systems and would handicap them in their ability to compete with other wireless services and with foreign MSS providers.[292] TRW and Motorola argue that none of the proponents of such a requirement have provided a detailed analysis of existing systems and costs, as required. In the absence of this analysis, they conclude that there is no basis upon which the Commission could impose public service requirements.[293]

206. In light of the service hardships alleged by the system proponents, we believe that a strong demonstration of need and feasibility is required prior to adopting specific public service requirements for Big LEO systems. We agree with Motorola and TRW that there is not sufficient information in this record to support such requirements at this time.

207. The National Communication Systems (NCS) believes that Big LEO licensees should be required to cooperate in providing national security/emergency preparedness services (NS/EP) and that any discussion of technical requirements for Big LEO systems should address survivable and endurable communications. NCS does not propose specific rules but instead

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[290] See Joint Comments of the Association of America's Public Television Stations and Public Broadcasting Service at 2; Comments of National Public Radio at 2; Comments of the Corporation for Public Broadcasting at 2-3.

[291] Ellipsat Reply Comments at 36.

[292] Motorola Reply Comments at 58.

[293] TRW Reply Comments at 95; Motorola Reply Comments at 59.

requests that the Commission consider these issues in its report and order. We note that the Commission has chartered a federal advisory committee, the Network Reliability Council (NRC), to consider whether and to what extent essential services, including emergency 9-1-1 service, health, safety and other emergency communications services, are compromised during network outages.[294] The NRC agreed that national security would be included within the topic of emergency services pursuant to its charter.[295] We further note that on September 19, 1994 the Commission adopted a Notice of Inquiry requesting comment on the extent to which mobile radio services, including LEO MSS, should be required to meet compatibility requirements with 9-1-1 services.[296] The Commission will consider issues regarding the availability of reliable emergency services in these proceedings.

F. Mobile Earth Station Licensing

208. In the Notice, the Commission proposed a licensing procedure for the earth station segment of the satellite system. We indicated that the ground segment will be comprised of central fixed-earth "gateway" stations operating in the feeder link frequency bands, mobile user transceiver units operating in the mobile satellite frequency bands, and tracking, telemetry and command (TT&C) earth stations operating in either the feeder link, mobile service or space bands. We proposed to license gateway and TT&C stations as fixed-satellite earth stations under Part 25. In addition, we proposed a blanket licensing approach for the user transceivers. Under this approach, a service vendor, which may or may not be the space station licensee, would hold the authorization and would be responsible for a specified number of technically identical transceiver units. Blanket applications would include a demonstration that the operation of transceivers will not interfere with other authorized users. License term would be ten years from date of grant and requests for additional units would be treated as minor license modifications.[297] In addition, we proposed that an end user be required to obtain authorization of the space station operator before the user may transmit to that system and, that once access authority is obtained, the operations of that transceiver would fall under the blanket earth station license of the space station operator or the vendor. Our proposed rules would not preclude bilateral, government-to-government discussions regarding international roaming arrangements. They would also permit roaming into the United States by users having technically compatible transceivers designed to operate with U.S. licensed systems and once authorized to access a U.S. system, a roaming user's transceiver operations would fall within the blanket license of the satellite operator or the service

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[294] See 59 FR 31246 (June 17, 1994).

[295] See Minutes of the Network Reliability Council Meeting, July 6, 1994.

[296] See Enhanced 9-1-1 Notice, note 278, supra.

[297] See proposed Sections 25.115(d), 25.130(b), 25.133(b), 25.136, and 25.213.

vendor. The regulatory treatment of earth station licensees providing commercial mobile radio services would be as common carriers.[298]

209. The comments received in response to our proposals were favorable[299] and thus we will adopt the rules substantially as proposed. Constellation and Motorola, suggested several minor clarifications to the final rules and we will adopt these suggestions.[300] We will not, however, adopt at this time a complete revision of § 25.115, Applications for Earth Station Authorizations, as suggested by Motorola. If experience with these licensing procedures indicates that this rule, as it applies to the Big LEO service, needs to be amended, we will consider doing so at a later time.[301]

G. International Issues

1. Coordination

210. As we stated in the Notice, non-geostationary mobile satellites, in their orbits around the world, will pass over all countries. Because these systems provide global coverage, each will require global coordination. As with all satellite services, each Big LEO applicant and licensee will be required to provide the Commission with all information necessary for advance publication, coordination, and notification of frequency assignments pursuant to the international Radio Regulations and for consultation pursuant to Article 14 of the INTELSAT Agreement and Article 8 of the INMARSAT Convention.[302]

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[298] See Notice, note 2, supra, at paras. 88-90.

[299] See, e.g., Comments of TRW, Inc. and Comsat Corporation.

[300] These include adding to § 25.115(d)(3) the words "if not already licensed under this subpart" to clarify that gateway, TT&C and Network Control earth stations can be licensed under other procedures; adding to § 25.120(e) language relating to renewals and cut-off periods; clarifying § 25.136(b) to distinguish between authorization of a particular unit and use of the system; clarifying § 25.130(b) to recognize specific procedures for NVNG MSS transceiver units; and clarifying § 25.136(a) to include cockpit communications.

[301] Other than Section 25.213(b), we will not adopt specific technical requirements for Big LEO transceivers at this time. These requirements are being considered in domestic and international fora and will be codified, if necessary, when earth station applications have been filed. We note that user transceivers will be required to comply with all applicable domestic and international standards governing their operations, including the radiofrequency radiation levels recommended by the American National Standards Institute (ANSI). See 47 C.F.R. § 1.1.1307(b).

[302] See 47 C.F.R. § 25.111(b).

211. Furthermore, the ITU (WARC-92) has adopted Resolution 46 to govern the coordination of mobile satellite systems in this frequency band. This procedure assures that worldwide coordination is accomplished in a manner that requires both the administration proposing the system and the administration that is affected by the planned system to cooperate in resolving coordination difficulties.[303] We agree with LQP and TRW that successful coordination under Resolution 46 is not a prerequisite for licensing, launching and operating these systems.[304] We note, however, that until they successfully complete coordination they cannot cause harmful interference to other primary services operating in these frequency bands, nor can they claim protection. We, however, will follow the coordination procedures prescribed by the ITU and will work with the global community to promote mobile satellite services through the development of sharing techniques and the exploration of other technical issues.[305] Moreover, as we stated in our Notice, we will continue to require our licensees to meet both their international obligations and any national requirements imposed by other licensing administrations regarding operations within their territories.[306] We continue to believe that decisions relating to the implementation of Big LEO service within a country's territory will remain within that country's jurisdiction and control.

212. In the Joint Proposal, the parties state that the Commission should establish a global band segmentation sharing plan different than the spectrum domestic spectrum plan. Specifically, the parties state that outside of North America, CDMA MSS licensees should be limited to operating their systems over 9.75 MHz of spectrum at 1610-1619.75 MHz and that the TDMA MSS licensee should be limited to operating its system over 6.75 MHz of spectrum at 1619.75 - 1626.5 MHz. According to the Joint Proposal, all U.S. international coordination activity should be based either on the domestic band segmentation plan we are adopting today, or, outside North America, on the proposed global plan. In addition, the parties to the Joint Proposal request the Commission to prohibit MSS licensees from seeking or accepting an exclusive assignment in the 1.6 GHz band that would preclude other MSS systems from providing service in any foreign country. LQP objects to these proposals, stating that they could be construed as preempting other nations' sovereign decisions.

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[303] ITU Resolution No. 46 (WARC-92, Res.46) states that "[a]ffected administrations, as well as the administration seeking coordination, shall make all possible mutual efforts to overcome the difficulties in a manner acceptable to the parties concerned."

[304] See LQP Comments at 117 and TRW Comments at 196. However, as we stated in our Notice, if a licensee has not completed coordination prior to launch, it must operate on a non-interference basis with respect to authorized users. See international Radio Regulation (RR) 342.

[305] Indeed, the United States participates actively in ITU-R Study Groups 2, 4 and 8, all of which are examining issues that address sharing and coordination of MSS systems.

[306] To the extent a licensee does not desire to meet a national requirement of a licensing administration within its territory, it may refrain from providing service to that particular administration. See TRW Comments at 196.

213. We will not impose a global band sharing plan on U.S. licensees at this time. The four parties to the Joint Proposal have not given any justification for doing so, and one applicant specifically opposes the imposition of such a plan. We have no evidence on the record before us of imminent coordination conflicts among the applicants beyond U.S. borders. Neither is it clear at present that operating constraints designed to accommodate our domestic licensees will provide either necessary or effective in other jurisdictions. Perhaps most importantly, we do not believe it is appropriate for the United States to impose global band sharing restrictions, that directly impact the ability of other countries to access these systems as they see fit, absent indications from these countries regarding their planned use of these frequency bands. Accordingly, we will not mandate a band sharing scheme to be followed beyond U.S. borders.

2. EC Concerns

214. The Delegation of the European Commission (EC) is concerned that the proposals in the Notice are based purely upon domestic U.S. interests despite the global nature of the proposed systems and services. Specifically, the EC alleges that the Notice: (1) fails to take into account proposed non-U.S. or future systems, their access to the U.S. market and use of spectrum in the U.S.; (2) indicates an intention to extend Section 310 restrictions to the proposed systems inhibiting potential European investment; (3) advances trade and industrial policy arguments underlining the importance of the proposed systems to the U.S. economy and U.S. leadership; (4) proposes unilateral solutions to orbit, frequency and coverage issues that are global in nature; (5) fails to discuss requirements to effect the satisfactory application of Resolutions 46 and 70 of WARC-92; and (6) fails to address issues related to access to the 2 GHz band. The EC states that the regulatory approach that we proposed raises global regulatory and trade issues and that the U.S. should not proceed with its domestic licensing process until it consults with foreign administrations.

215. We agree that the proposed systems have international ramifications. Many of these are or will be addressed in appropriate international fora and in ITU satellite coordination activities. Others may be appropriate for bilateral consultations of the nature sought by the EC. However, we do not agree that the U.S. domestic licensing process must await final resolution of these issues.

216. We find delaying the U.S. licensing process is unacceptable. Delaying our regulatory process would delay the improved communications and economic growth that Big LEO services will create. These benefits would be developed both for citizens of the United States and all other countries that may choose to participate in rendering these services. Such a delay would also harm developing countries by limiting their opportunity to improve their communications infrastructure. The uncertainty associated with delay could also adversely impact the viability of the proposed systems in the financial markets and the ability of the applicants to attract additional investors. U.S. applicants have already invested significant resources in research and development, satellite design, marketing and participation in ITU meetings and conferences. Even if the United States were to delay its licensing process, it is unclear how the EC proposes to resolve the issues it has identified, resulting in open-ended delay. Further, the EC's criticism

of our proposals is not accompanied by recommendations. Indeed, it is not clear that the EC is yet in a position to speak authoritatively for its member countries. We do not believe that an indefinite delay in the U.S. regulatory process under such circumstances is warranted.

217. It is also clear that there we do not need to delay the domestic licensing proceeding until international agreements are finalized. Regardless of our domestic decisions, each administration will retain the right to license gateway earth stations and mobile earth stations needed to provide service. In addition, U.S. licensees will be subject to ITU recommendations and coordination procedures. Further, the United States is working within the ITU Radiocommunications sector to develop standards applicable to LEO systems. However, we seek to leave system design and service offerings to the licensees as much as possible in order to encourage technological innovation, to promote rapid implementation of Big LEO services and to maximize consumer choice. Therefore it is in the interest of the United States' government and U.S. system operators to seek globally acceptable standards and we will strive to do so. We disagree with the EC that we are not taking into account projects envisaged outside the United States and future global systems that might use the spectrum. In the Notice, we noted that all U.S. satellite systems are subject to ITU coordination procedures.[307] Thus, U.S.-licensed operators are required to coordinate their proposed systems with countries whose existing services, or whose possible future MSS systems, might be affected. Regardless of the spectrum licensing arrangement within the United States, we would work with affected administrations to resolve any spectrum sharing or technical issues. Further, we are not precluding access to the the U.S. market. We believe, however, that subject is more appropriately handled through bilateral discussions (as the EC contemplates) and the ITU coordination process.

218. In addition, we are not seeking to extend Section 310 restrictions on the proposed systems with the intention of inhibiting European investment. In fact, Section 310(b) restrictions will not necessarily apply to the systems because we are not requiring them to operate on a common carrier basis.[308] This policy will permit investment by European industry and other non-government interests. Some of the proposed systems already anticipate significant non-U.S. investment and continue to seek additional such participation. We recognize multinational participation as an integral part of developing a global system.

219. With regard to the EC's concern that we are advancing trade and industrial policy arguments by moving ahead with the proposed systems, we note that a report prepared by PKMG Peat Marwick on behalf of the European Commission suggests that (with regard to Europe), "...the immediate priority is international trade and policy issues;"[309] the very issues the EC accuses the United States of advancing. Notwithstanding the EC's views, the United States has

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[307] Notice, note 2, supra, at para. 91.

[308] See paras. 171-181, supra.

[309] See "Satellite Personal Communications and their Consequences for European Telecommunications Trade and Industry," KPMG Peat Marwick, at 4, emphasis added.

every right under established ITU procedures to move forward with licensing systems that are necessary to satisfy domestic demand for new communication services. Other administrations have the right to decide whether these or any other non-U.S. licensed systems will operate in their countries and whether to participate in the provision of services. Participation in providing these MSS services will give their industries the opportunity to share in the global economic benefits we believe these systems will bring.

220. The EC also argues that the Notice proposes unilateral solutions to orbit, frequency and coverage issues that have global implications. Further, it contends that the Notice fails to discuss requirements necessary to effect the application of ITU Resolution Nos. 46 and 70.

221. With regard to orbit considerations[310] and the use of 1.6/2.4 GHz frequencies, we note that as a matter of course the United States engages in good faith negotiations with respect to whatever non-U.S. systems have been filed with the ITU at the time U.S. systems are ready to begin coordination.[311] Consequently, the use of the orbits and of frequencies by U.S.-licensed systems will be subject to the outcome of the ITU coordination process. The worldwide coverage conditions proposed in the Notice[312] result from our desire that these systems be capable of providing coverage to all areas of the world. This could further U.S. participation in the global information infrastructure and potentially benefit developing countries. Again, however, whether U.S.-licensed systems provide services outside the United States would be subject to the agreement of and authorization by other administrations.

222. With regard to the application of Resolutions No. 46 and 70, we note that Resolution No. 46 relates to "interim" procedures for the coordination and notification of non-geostationary satellite networks. As an interim procedure it is subject to further development and will likely evolve. Nevertheless, U.S.-licensed systems will be subject to whatever coordination procedures are in effect at the time, including Resolution 46 or its successor. In the Notice we stated explicitly that we would follow coordination procedures prescribed by the ITU, and in fact we reference Resolution No. 46 and its applicability to Big LEO systems.[313] We also note that each Big LEO applicant will be required to provide us all information necessary to

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[310] We assume here that the EC refers to non-geostationary vs. geostationary orbits.

[311] We note that the following administrations have proposed MSS systems in the 1.6/2.4 GHz bands that have been advance published, coordinated or notified with the ITU: France (2 systems); Germany; INMARSAT; Russian Federation (2 systems); Tonga (4 systems); and the United States (2 systems).

[312] Notice, note 2, supra, at para. 23.

[313] Notice, note 2, supra, at para. 92 and n. 149.

advance publish, notify and coordinate their proposed systems. Implicitly, all applicants will be required to assist us in effecting whatever coordination procedures the ITU requires.[314]

223. On the other hand, Resolution 70 relates to "establishment" of standards for low-orbit satellite systems and has no requirements per se. It seeks to begin the process of establishing standards for low-orbit satellite systems and invites the appropriate ITU organs to begin studies in this regard. The United States participates in these ITU activities and will continue to do so. However, as Resolution No. 70 has not resulted in any specific ITU recommendations, it is not possible to address "requirements" in a domestic licensing proceeding.

224. Finally, the EC contends that the Notice fails to address issues related to access to 2 GHz MSS bands[315] and the relation between access to those bands and the bands under consideration here. First, we note that the 2 GHz bands have not yet been allocated for MSS in the United States. Therefore, these bands will be the subject of another proceeding. In such a proceeding, all matters relevant to the use of 2 GHz bands would be discussed. Nevertheless, we note the increasing demand for access to MSS spectrum worldwide and the potential value of the 2 GHz bands for the provision of MSS. We are also aware of proposals to use the 2 GHz bands for services similar and competitive to those envisaged by the Big LEO applicants.[316] The United States would like to facilitate access to these bands, as does the EC. We believe that WRC-95 and future multi-lateral consultations would present the appropriate fora to discuss access to and use of 2 GHz MSS bands.

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[314] This requirement applies to all FCC-licensed satellite systems and is codified in the FCC rules. See 47 CFR § 25.111(b).

[315] The "2 GHz" MSS bands were allocated at WARC-92 as follows:

1970-1980 MHz and 2160-2170 MHz:
(Regions 1 and 3) - Fixed, Mobile;
(Region 2) - Fixed, Mobile, Mobile-Satellite*

1980-2010 MHz and 2170-2200 MHz:
(Regions 1, 2 and 3) -- Fixed, Mobile, Mobile-Satellite*

* These MSS allocations are available for use after Jan. 1, 2005, except in the U.S., when they will be available after Jan. 1, 1996.

[316] For example, the FCC has received two petitions (names) to provide MSS services in this range. In addition, spectrum in this range has been identified for a satellite component of FLMPTS.

IV. FINAL REGULATORY FLEXIBILITY ANALYSIS

225. Need for Rules and Objective. We have codified proposed rules that will permit Big LEO systems to be licensed. Our objectives have been to promote efficiency and innovation in the licensing and use of the electromagnetic spectrum, to develop competitive and innovative communications systems, and to promote effective and adaptive regulations.

226. Issues Raised by the Public in Response to the Initial Analysis. No comments were received specifically in response to the Initial Regulatory Flexibility Analysis. We have, however, taken into account all issues raised by the public in response to the proposed rules. In certain instances, we have eliminated or modified our proposed rules in response to those comments.

227. Alternatives that would Lessen Impact. The minimal regulatory burden that we have imposed is necessary in order to carry out our duties under the Communications Act and other Federal statutes. We will continue to examine these requirements in an effort to eliminate unnecessary regulations and to minimize significant economic impact on small businesses.

V. CONCLUSION AND ORDERING CLAUSES

228. By our action today, we are adopting regulations that will allow the licensing of competitive voice and data Big LEO systems. This service has the potential to provide the United States public with a wide range of needed mobile voice services and to help stimulate the domestic economy as these multi-billion dollar systems are implemented in the United States and throughout the world.

229. Accordingly, IT IS ORDERED that Parts 25 and 92 of the Commission's rules are amended as specified in Appendix B, effective 30 days after publication in the Federal Register.

230. IT IS FURTHER ORDERED that the applicants will be required to file conforming amendments and all necessary fees no later than November 16, 1994 for continued consideration in this processing group.

FEDERAL COMMUNICATIONS COMMISSION

William F. Caton
Acting Secretary

Comments/Petitions:

1. Aeronautical Radio, Inc. & The Air Transport Association of America
2. AirTouch Communications
3. AMSC Subsidiary Corporation
4. Association of America's Public Television Stations, & Public Broadcasting Service
5. Barclays de Zoete Wedd Limited
6. Committee On Radio Frequencies, Natl Research Council for the Natl Academy of Sciences
7. COMSAT Mobile Communications
8. Constellation Communications, Inc.
9. Conus Communications Company Limited Partnership
10. Corporation for Public Broadcasting
11. Defense Information Systems Agency (National Communications System)
12. Eastman Kodak Company
13. Ellipsat Corporation
14. EMSAT: Advanced Technology for Emergency Medical Services
15. Fairchild Space and Defense Corporation
16. Federal Aviation Administration
17. Harris Corporation
18. Loral/QUALCOMM Partnership, L.P. (Comments + Technical Appendix)
19. Mobile Datacom Corporation
20. Motorola, Inc.
21. Mr. Bernard J. Trudell
22. National Association of EMS Physicians
23. National Astronomy and Ionosphere Center, Arecibo Observatory
24. National Telephone Cooperative Association
25. National Public Radio, Inc.
26. NOVACOM, Inc.
27. Rockwell International Corporation
28. State of Hawaii, Department of Business, Economic Development & Tourism
29. Texas Advisory Committee on State Emergency Communications
30. TRW Inc.
31. United States Coast Guard, U.S. Department of Transportation
32. Westinghouse Electric Corporation
33. Wireless Cable Association International, Inc., The

Reply Comments:

1. Aeronautical Radio, Inc. and The Air Transport Association of America
2. AirTouch Communications
3. AMSC Subsidiary Corporation
4. Arizona Board of Regents for the Benefit of the University of Arizona, et. al. (ITFS Parties)
5. Committee on Radio Frequencies (Natl Research Council for the Natl Academy of Sciences)

6. Constellation Communications, Inc.
7. Ellipsat Corporation
8. Interagency Committee on Search and Rescue (DOT, United States Coast Guard)
9. Loral/Qualcomm Partnership, L.P.
10. Mobile Datacom Corporation
11. Motorola Satellite Communications, Inc.
12. National Institute for Urban Search and Rescue
13. National Business Aircraft Association, Inc.
14. National Emergency Number Association
15. Newcomb Communications, Inc.
16. Texas Advisory Committee on State Emergency Communications
17. TRW Inc.
18. Wireless Cable Association International, Inc.

Title 47 of the Code of Federal Regulations, Parts 2, 25 and 94, are amended as follows:

1. The Table of Contents for Part 25 is revised to read as follows:

PART 25 - SATELLITE COMMUNICATIONS

Subpart A - General

Sec.

Subpart B - Applications and Licenses

EARTH STATIONS

SPACE STATIONS

PROCESSING OF APPLICATIONS

FORFEITURE, TERMINATION, AND REINSTATEMENT OF STATION AUTHORIZATION

Subpart C - Technical Standards

Subpart D -- Technical Operations

Subpart E - Developmental Operations

Subparts F - G -- [Reserved]

Subpart H - Authorization To Own Stock in the Communications Satellite Corporation

25.505 Persons requiring authorization.

25.506 - 25.514 [Reserved]

25.515 Method of securing authorization.

25.516 - 25.519 [Reserved]

25.520 Contents of application.

25.521 Who may sign applications.

25.522 Full disclosures.

25.523 Form of application, number of copies, fees, etc.

25.524 [Reserved]

25.525 Action upon applications.

25.526 Amendments.

25.527 Defective applications.

25.528 - 25.529 [Reserved]

25.530 Scope of authorization.

25.531 Revocation of authorization.

2. The authority citation for Part 25 continues to read as follows:

AUTHORITY: Sections 101 - 404, 76 Stat. 419 - 427; 47 U.S.C. 701 -744, Sec. 4, 48 Stat. 1066, as amended; 47 U.S.C. 154. Interprets or applies sec. 303, 48 Stat. 1082, as amended; 47 U.S.C. 303.

3. Section 25.114 is amended by revising paragraphs (c)(6), (c)(18), and (c)(26), and adding new paragraphs (c)(28) and (d), to read as follows:

§ 25.114 Applications for space station authorizations.

* * * * *

(c) * * *

(6) (i) For geostationary satellite orbit satellites, orbital location, or locations if alternatives are proposed, requested for the satellite, the factors which support such an orbital assignment, the range of orbital locations from which adequate service can be provided and the basis for determining that range of orbital locations, and a detailed explanation of all factors that would limit the orbital arc over which the satellite could adequately serve its expected users.

(ii) For non-geostationary satellite orbit satellites, the number of space stations and applicable information relating to the number of orbital planes, the inclination of the orbital plane(s), the orbital period, the apogee, the perigee, the argument(s) of perigee, active service arc(s), and right ascension of the ascending node(s).

(iii) For 1.6/2.4 GHz Mobile-Satellite Service space stations, the feeder link frequencies requested for the satellite, together with the demonstration required by §§ 25.203(j) and (k).

* * * * *

(18) Detailed information demonstrating the financial qualifications of the applicant to construct and launch the proposed satellites. Applications for domestic fixed-satellite systems and mobile-satellite systems shall provide the financial information required by § 25.140(b)-(e), § 25.142(a)(4), or § 25.143(b)(3), as appropriate. Applications for international satellite systems authorized pursuant to Establishing of Satellite Systems Providing International Communications, 50 FR 42266 (October 18, 1985), 101 FCC 2d 1046 (1985), recon. 61 RR 2d 649 (1986), further recon. 1 FCC Rcd 439 (1986), shall provide the information required by that decision.

* * * * *

(26) Applications for authorizations in the Mobile-Satellite Service in the 1545-1559/1646.5-1660.5 MHz frequency bands shall also provide all information necessary to comply with the policies and procedures set forth in Rules and Policies Pertaining to the Use of Radio Frequencies in a Land Mobile Satellite Service, 52 FR 4017 (Feb. 9, 1987), 2 FCC Rcd 485 (1987).

* * * * *

(28) Applications for authorizations in the 1.6/2.4 GHz Mobile-Satellite Service shall also provide all information specified in § 25.143.

(d) Applicants requesting authority to construct and/or launch a system comprised of technically identical, non-geostationary satellite orbit mobile-satellite service space stations may file a single "blanket" application containing the information specified in paragraph (c) of this section for each representative space station.

4. Section 25.115 is amended by revising paragraph (d) to read as follows:

§ 25.115 Applications for earth station authorizations.

* * * * *

(d) User transceivers in the NVNG and 1.6/2.4 GHz Mobile-Satellite Service need not be individually licensed. Service vendors may file blanket applications for transceiver units using FCC Form 493 and specifying the number of units to be covered by the blanket license. Each application for a blanket license under this section shall include the following:

(1) A general narrative section describing the applicant and the overall system operation,
(2) A Form 430 (Licensee Qualification Report), if not already on file in conjunction with other facilities licensed under this subpart,
(3) A Form 493 for each representative type of user transceiver terminal unit,
(4) A designation of a point of contact where records of individual users will be maintained.

In addition, applicants in the NVNG MSS service shall provide the information described in § 25.135. Applicants in the 1.6/2.4 GHz Mobile-Satellite Service shall demonstrate that the stations comply with the technical requirements specified in § 25.213.

5. Section 25.120 is amended by revising paragraphs (d) and (e) to read as follows:

§ 25.120 License term and renewals.

* * * * *

(d) Space stations.

(1) For geostationary satellite orbit satellites, the license term will begin at 3 a.m. EST on the date the licensee certifies to the Commission that the satellite has been successfully placed into orbit and that the operations of the satellite fully conform to the terms and conditions of the space station radio authorization.

(2) For non-geostationary satellite orbit satellites, the license term will begin at 3 a.m. EST on the date that the licensee certifies to the Commission that its initial space station has been successfully placed into orbit and that the operations of that satellite fully conform to the terms and conditions of the space station system authorization. All space stations launched and brought into service during the ten-year license term shall operate pursuant to the system authorization, and the operating authority for all space stations will terminate upon the expiration of the system license.

(e) Renewal of licenses. Applications for renewals of earth station licenses must be submitted on FCC Form 405 (Application for Renewal of Radio Station License in Specified Services) no earlier than 90 days, and no later than 30 days, before the expiration date of the license. Applications for space station system replacement authorization for non-geostationary orbit satellites shall be filed no earlier than 90 days, and no later than 30 days, prior to the end of the seventh year of the existing license term.

6. Section 25.130 is amended by revising paragraph (b) to read as follows:

§ 25.130 Filing requirements for transmitting earth stations.

* * * * *

(b) A frequency coordination analysis in accordance with §25.203 shall be provided for earth stations transmitting in the frequency bands shared with equal rights between terrestrial and space services, except that applications for user transceiver units associated with the NVNG mobile-satellite service shall instead provide the information required by § 25.135 and applications for user transceiver units associated with the 1.6/2.4 GHz Mobile-Satellite Service shall demonstrate that user transceiver operations comply with the requirements set forth in § 25.213.

7. Section 25.133 is amended by revising paragraph (b) to read as follows:

§ 25.133 Period of construction; certification of commencement of operation.

* * * * *

(b) Each license for a transmitting earth station included in this part shall also specify as a condition therein that upon the completion of construction, each licensee must file with the Commission a certification containing the following information: The name of the licensee; file number of the application; call sign of the antenna; date of the license; a certification that the facility as authorized has been completed and that each antenna facility has been tested and is within 2 dB of the pattern specified in § 25.209, § 25.135 (NVNG MSS earth stations), or § 25.213 (1.6/2.4 GHz Mobile-Satellite Service earth stations); the date on which the station became operational; and a statement that the station will remain operational during the license period unless the license is submitted for cancellation. For stations authorized under § 25.115(c) of this part (Large Networks of Small Antennas operating in the 12/14 GHz bands) and § 25.115(d) of this part (User Transceivers in the Mobile-Satellite Service), a certificate must be filed when the network is put into operation.

8. A new section 25.136 is added to read as follows:

§ 25.136 Operating provisions for earth station networks in the 1.6/2.4 GHz mobile-satellite service

In addition to the technical requirements specified in § 25.213, earth stations operating in the 1.6/2.4 GHz Mobile-Satellite Service are subject to the following operating conditions:

(a) User transceiver units associated with the 1.6/2.4 GHz Mobile-Satellite service may not be operated on civil aircraft unless the earth station has a direct physical connection to the aircraft Cabin Communication system.

(b) User transceiver units in this service are authorized to communicate with and through U.S. authorized space stations only. No person shall transmit to a space station unless the specific transmission is first authorized by the space station licensee or by a service vendor authorized by that licensee.

(c) Any user transceiver unit associated with this service will be deemed, when communicating with a particular 1.6/2.4 GHz Mobile-Satellite Service system pursuant to paragraph (b) of this section, to be temporarily associated with and licensed to the system operator or service vendor holding the blanket earth station license awarded pursuant to Section 25.115(d). The domestic earth station licensee shall, for this temporary period, assume the same licensee responsibility for the user transceiver as if the user transceiver were regularly licensed to it.

9. Section 25.141 is amended by revising paragraphs (a) and (f) to read as follows:

§ 25.141 Licensing provisions for the radiodetermination satellite service.

(a) Space station application requirements. Each application for a space station license in the radiodetermination satellite service shall describe in detail the proposed radiodetermination satellite system, setting forth all pertinent technical and operational aspects of the system, including its capability for providing and controlling radiodetermination service on a geographic basis, and the technical, legal and financial qualifications of the applicant. In particular, each application shall include the information specified in Appendix B of Space Station Application Filing Procedures, 93 FCC 2d 1260, 1265 (1983), except that in lieu of demonstrating compliance with item II.F (two degree spacing), applicants are required to demonstrate compatibility with licensed satellite systems in the same frequency band. Applicants must also file information demonstrating compliance with all requirements of this section, specifically including information demonstrating how the applicant has complied or plans to comply with the requirements of paragraph (f) of this section.

* * * * *

(f) Radiodetermination satellite service. Licenses shall coordinate with radiodetermination satellite system licensees to avoid harmful interference to other radiodetermination satellite systems through (1) power flux density limits; (2) use of pseudorandom-noise codes (for both the satellite-to-user link and for the user-to-satellite link); and (3) random access, time division multiplex techniques. Licensees shall coordinate with 1.6/2.4 GHz Mobile-Satellite Service system licensees to avoid harmful interference to 1.6/2.4 GHz Mobile-Satellite Service systems.

10. A new Section 25.143 is added to read as follows:

§ 25.143 Licensing provisions for the 1.6/2.4 GHz Mobile-Satellite Service.

(a) System License: Applicants authorized to construct and launch a system of technically identical non-geostationary satellite orbit satellites will be awarded a single "blanket" license covering a specified number of space stations to operate in a specified number of orbital planes.

(b) Qualification Requirements.

(1) General Requirements: Each application for a space station system authorization in the 1.6/2.4 GHz mobile-satellite service shall describe in detail the proposed satellite system, setting forth all pertinent technical and operational aspects of the system, and the technical, legal, and financial qualifications of the applicant. In particular, each application shall include the information specified in § 25.114.

(2) Technical Qualifications: In addition to providing the information specified in (b)(1), each applicant shall demonstrate the following:

(i) that the proposed system employs a non-geostationary constellation or constellations of satellites;

(ii) that the proposed system be capable of providing mobile satellite services to all locations as far north as 70° latitude and as far south as 55° latitude for at least 75% of every 24-hour period, i.e., that at least one satellite will be visible above the horizon at an elevation angle of at least 5° for at least 18 hours each day within the described geographic area;

(iii) that the proposed system is capable of providing mobile satellite services on a continuous basis throughout the fifty states, Puerto Rico and the U.S. Virgin Islands, U.S., i.e., that at least one satellite will be visible above the horizon at an elevation angle of at least 5° at all times within the described geographic areas;

(iv) that operations will not cause unacceptable interference to other authorized users of the spectrum. In particular, each application shall

demonstrate that the space station(s) comply with the requirements specified in § 25.213.

(3) Financial Qualifications: Each applicant for a space station system authorization in the 1.6/2.4 GHz mobile-satellite service must demonstrate, on the basis of the documentation contained in its application, that it is financially qualified to meet the estimated costs of the construction and launch of all proposed space stations in the system and the estimated operating expenses for one year after the launch of the initial space station. Financial qualifications must be demonstrated in the form specified in §§ 25.140(c) and (d). In addition, applicants relying on current assets or operating income must submit evidence of a management commitment to the proposed satellite system. Failure to make such a showing will result in the dismissal of the application.

(c) Replacement of Space Stations Within the System License Term. Licensees of 1.6/2.4 GHz mobile-satellite systems authorized through a blanket license pursuant to paragraph (a) of this section need not file separate applications to construct, launch and operate technically identical replacement satellites within the term of the system authorization. However, the licensee shall certify to the Commission, at least thirty days prior to launch of such replacement(s) that:

(1) the licensee intends to launch a space station that is technically identical to those authorized in its system authorization, and

(2) launch of this space station will not cause the licensee to exceed the total number of operating space stations authorized by the Commission.

(d) In-Orbit Spares. Licensees need not file separate applications to operate technically identical in-orbit spares authorized as part of the blanket license pursuant to paragraph (a) of this section. However, the licensee shall certify to the Commission, within 10 days of bringing the in-orbit spare into operation, that operation of this space station did not cause the licensee to exceed the total number of operating space stations authorized by the Commission.

(e) Reporting requirements.

(1) All operators of 1.6/2.4 GHz mobile-satellite systems shall, on June 30 of each year, file with the International Bureau and the Field Office in Laurel, Maryland a report containing the following information:

(i) Status of satellite construction and anticipated launch dates, including any major problems or delays encountered;

(ii) A listing of any non-scheduled space station outages for more than 30 minutes and the cause or causes of the outage;